

What is claimed:

1. A method for hydrogen sulphide and/or mercaptans decomposition, said method comprising passing hydrogen sulphide and/or mercaptans containing gas at a temperature lower than 200°C through a layer of a solid material capable to decompose hydrogen sulphide and/or mercaptans with isolation of hydrogen or hydrocarbons and formation of sulfur containing compounds on the surface of the material, characterized in that said solid material is placed in the layer of a liquid phase substance.
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